UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R070XB052NM

Site Name: Loamy

Precipitation or Climate Zone: 13 to 16 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site is on nearly level to undulating plains. Elevation ranges between approximately 3,800 to 5,000 feet above sea level. Slopes are 0 to 9 percent.

Land Form:

1. Plain
2.
3.

Aspect:

1. N/A
2.
3.

	Minimum	Maximum
Elevation (feet)	3,800	5,000
Slope (percent)	0	9
Water Table Depth (inches)	>72	>72

Flooding:	**Minimum**	**Maximum**
Frequency	Rare	Rare
Duration	Brief	Brief

Ponding:	**Minimum**	**Maximum**
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

The climate of this area can be classified as "semi-arid continental".

Annual average precipitation ranges from 13 to 16 inches. About seventy eight percent of the moisture usually falls during the six-month period of May through October. Most of this summer precipitation falls in the form of brief and heavy afternoon and evening thunderstorms. Hail may accompany the more severe summer storms. In the winter, there is normally only one day a month when as much as one-tenth inch of moisture falls, usually in the form of snow. Snow seldom lies on the ground for more than a few days.

Temperatures are characterized by a distinct seasonal change and large annual and diurnal temperature ranges. Summers are moderately warm. Maximum temperature average above 90 degrees F from July to August and an average summer includes about 80 days with high readings exceeding 90 degrees F and 10 days with readings above 100 degrees F. Temperatures usually fall rapidly after sundown and low of 60 degrees F on most summer nights. Winters are mild, sunny and dry. Daytime shade temperatures in midwinter usually rise to the 50's. However, freezing temperatures normally occur at night from mid-November to mid-March.

The freeze-free season ranges from 190 to 197 days. Dates of the last freeze are April 11th to April 17th and the first freeze varies from October 20th to October 25th.

Both temperature and rainfall distribution favor warm-season, perennial plant communities in the area. However, sufficient late winter and early spring moisture allows a cool-season species to occupy a minor component within the plant community

Climate data was obtained from http://www.wrcc.sage.dri.edu/summary/climsmnm.html web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	164	196
Freeze-free period (days):	190	218
Mean annual precipitation (inches):	13	16

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	0.23	0.46	21.6	57.3
February	0.30	0.44	24.0	59.2
March	0.46	0.65	29.1	68.0
April	0.36	0.92	36.3	78.3
May	0.42	1.68	45.7	82.6
June	1.20	1.86	52.2	91.2
July	2.03	2.73	59.1	92.9
August	2.09	2.75	58.1	91.0
September	1.65	1.92	51.1	84.8
October	1.23	1.93	40.1	74.7
November	0.46	0.88	28.9	63.0
December	0.37	0.62	22.1	54.6

Climate Stations:

				Period		
Station ID	290205	Location	Alamogordo Dam, NM	From: 1972	To:	2000
Station ID	293292	Location	Fort Sumner, NM	From: 01/01/14	To:	2000
Station ID	297254	Location	Ramon 8SW, NM	From: 03/04/57	To:	122/31/01
Station ID	298596	Location	Sumner Lake. NM	From: 01/0121	To:	12/31/01
Station ID	299851	Location	Yeso, NM	From: 01/01/48	To:	12/31/01

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

These are moderately deep and deep well drained soils on uplands and alluvial fans. The surface layers are silt loam, loam or sandy loam through clay loam. The surface runoff is medium. The permeability is slow to moderately rapid. Infiltration rate is medium to moderately slow.

Parent Material Kind: Alluvium
Parent Material Origin: Mixed

Surface Texture:

1. Loam
2. Silt loam
3. Fine sandy loam
4. Clay loam
5. Sandy clay loam
6. Silty clay loam
7. Very fine sandy loam
8. Sandy loam

Surface Texture Modifier:

1. N/A
2.
3.

Subsurface Texture Group: Loamy
Surface Fragments <=3" (% Cover): N/A
Surface Fragments >3" (% Cover): N/A

Subsurface Fragments <=3" (%Volume): 15 to 35
Subsurface Fragments >=3" (%Volume): N/A

	Minimum	Maximum
Drainage Class:	Well	Well
Permeability Class:	Impermeable	Moderately slow
Depth (inches):	40	>72
Electrical Conductivity (mmhos/cm):	0.00	8.00
Sodium Absorption Ratio:	0.00	4.00
Soil Reaction (1:1 Water):	6.6	9.0
Soil Reaction (0.1M CaCl2):	N/A	N/A
Available Water Capacity (inches):	2	9
Calcium Carbonate Equivalent (percent):	N/A	N/A

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label**: HCPC

Plant Community Narrative: Historic Climax Plant Community
Warm-season short and mid-grasses dominate this site. Forbs are a minor component to this plant community. Few woody species are found in the potential plant community.
*In the high range of the precipitation.
**In areas where mesquite has invaded, the potential plant community should include this species.

Canopy Cover:	
Trees	0
Shrubs and half shrubs	2 %
Ground Cover (Aveage Percent of Surface Area).	
Grasses & Forbs	35
Bare ground	38
Surface gravel	0
Surface cobble and stone	0
Litter (percent)	25
Litter (average depth in cm.)	3

Plant Community Annual Production (by plant type):

Annual Production (lbs/ac)

Plant Type	Low	RV	High
Grass/Grasslike	560	920	1,280
Forb	105	173	240
Tree/Shrub/Vine	35	58	80
Lichen			
Moss			
Microbiotic Crusts			
Total	700	1,150	1,600

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOGR2	Blue Grama	368 – 403	368 – 403
2	PLJA PLMU3	Galleta Tobosa	115 – 138	115 – 138
3	BOER4	Black Grama	230 – 403	230 – 403
4	BOCU	Sideoats Grama	92 – 138	92 – 138
5	SPCR	Sand Dropseed	46 – 81	46 – 81
6	MUTO2	Ring Muhly	23 – 46	23 – 46
7	ARIST	Threeawn spp.	35 – 69	35 – 69
8	PAOB	Vine-mesquite	23 – 58	23 – 58
9	SPAI	Alkali Sacaton	58 – 92	58 – 92
10	BOSA	Silver Bluestem	23 – 58	23 – 58
11	PASM	Western Wheatgrass*	0 – 35	0 – 35
12	ELEL5	Bottlebrush Squirreltail	0 – 35	0 – 35
13	BUDA	Buffalograss	0 – 35	0 – 35
14	DICA	Arizona Cottontop	12 – 46	12 – 46
15	DAPU7	Fluffgrass	0 – 12	0 – 12
16	SCSC	Little Bluestem	23 – 58	23 – 58
17	SCBR2	Burrograss	35 – 58	35 – 58
18	MUAR	Ear Muhly	23 – 46	23 - 46

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
19	SPHAE	Globemallow spp.	12 – 35	12 – 35
20	HEAN3	Annual Sunflower	12 – 35	12 – 35
21	ASTRA	Astragulas spp.	0 – 12	0 – 12
22	2FP	Other Perennial Forbs	35 – 69	35 – 69
23	2FA	Other Annual Forbs	35 – 69	35 - 69

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
24	GUSA2	Broom Snakeweed	12 – 35	12 – 35
25	YUCCA	Yucca spp.	12 – 35	12 – 35
26	KRLA2	Winterfat	12 – 35	12 – 35
27	OPPO	Plains Pricklypear Cactus	0 – 12	0 – 12
28	PRGL2	Mesquite**	0 – 35	0 - 35

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Growth Curves

Growth Curve ID **4002NM**

Growth Curve Name: **HCPC**

Growth Curve Description: **Warm-season short and mid-grassland with minor components of forbs and shrubs.**

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	10	10	25	30	12	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This site provides habitats which support a resident animal community that is characterized by pronghorn antelope, badger, black-tailed jackrabbit, plains pocket gopher, burrowing owl, marsh hawk, scaled quail, horned lark, great plains toad and Texas horned lizard.

Mule deer are seasonal users of sites, which contain mesquite. There is nesting use of mesquite foliage by roadrunner, magpie, cactus wren and mockingbirds. The long billed curlew and lark bunting breed on grassy sites.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	**Hydrologic Group**
Alama	B
Alma	B
Amarillo	B
Berthoud	B
Canez	B
Chispa	B
Clovis	B
Conchas	C
Hilken	C
Hodgins	B
Ima	B
Kinkead	C
La Lande	B
Lacita	B
Milner	B
Minneosa	B
Minor Components	B
Montoya	C
Playa	C
Poquita	B
Portales	B
Quay	B, C
Ratliff	B
Reagan	B
Redona	B
Reeves	B
San Jon	C
San Jose	B
Toyah	B
Tucumcari	B

Recreational Uses:

Recreation potential is limited largely by the lack of water and firewood. Suitability for camping, hiking and picnicking is fair. The terrain typical of the "wide open spaces" of the area enhances aesthetic appeal. Hunting is fair for small game and upland game birds and is good for hunting antelope.

Wood Products:

This site produced no wood products.

Other Products:

Grazing:

This site can be grazed any season of the year by all classes and ages of livestock. It is better suited to cow/calf or yearlings due to the large percentage of grass in the potential plant community. Continuous grazing yearlong or grazing continually during the period from March through October, by cattle, will result in a decrease of species such as black grama, sideoats grama, alkali sacaton, vine-mesquite, little bluestem, western wheatgrass, bottlebrush squirreltail and winterfat. Species such as blue grama, galleta or tabosa, ring muhly, threeawns and broom snakeweed will increase. Cholla cactus and one-seed juniper will invade this site under continuous heavy grazing pressure where there is an available seed source from an adjoining site. Burrograss will invade this site as potential plant community deteriorates. Blue grama will form a low dense turf under continuous grazing pressure. A system of deferred grazing by domestic livestock, which varies the season of grazing and rest during successive years, will result in healthy, high forage producing plant community. Fall and winter rest will benefit species such as winterfat and black grama. Cattle show a definite seasonal preference on black grama and usually utilize it heavily during the late winter from January to March. Black grama cures well and is higher in protein than other grasses during this period. Spring rest (April-June) will allow species such as western wheatgrass and bottlebrush squirreltail to grow and reproduce. Summer rest will benefit warm-season species such as blue grama, sideoats grama, vine-mesquite and alkali sacaton to gain vigor and produce. Ninety-five percent of the annual production is from species that provide forage for grazing animals.

Other Information:	
Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month	
Similarity Index	**Ac/AUM**
100 - 76	2.3 – 4.9
75 – 51	2.8 – 5.9
50 – 26	4.0 – 9.0
25 – 0	9.0+

Plant Part	Code	Species Preference	Code
Stems	**S**	**None Selected**	**NS**
Leaves	**L**	**Preferred**	**P**
Flowers	**F**	**Desirable**	**D**
Fruits/Seeds	**F/S**	**Undesirable**	**U**
Entire Plant	**EP**	**Not Consumed**	**NC**
Underground Parts	**UP**	**Emergency**	**E**
		Toxic	**T**

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	P	P	P	P	D	D	D	D	D
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Bottlebrush Squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D
Arizona Cottontop	Digitaria californica	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Winterfat	Krascheninnikovia lanata	L/S	D	D	P	P	P	P	P	P	D	D	D	D
Annual Sunflower	Helianthus annuum	EP	U	U	U	U	U	D	D	D	U	U	U	U

Animal Kind: Livestock
Animal Type: Horse

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	P	P	P	P	D	D	D	D	D

Animal Kind: Livestock
Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Sideoats Grama	Bouteloua curtipendula	EP	D	D	D	D	P	P	P	P	P	D	D	D
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	D	D	P	P	D	D	D	D	D
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P

Animal Kind: Wildlife
Animal Type: Antelope

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Globemallow	Sphaeralcea spp.	EP	U	U	D	D	D	D	D	D	U	U	U	U
Annual Sunflower	Helianthus annuum	EP	U	U	U	U	U	D	D	D	U	U	U	U

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: **New Mexico**

County: **De Baca, Guadalupe, Roosevelt, Quay, San Miguel**

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? **Yes** ☐ **No** ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Pecos-Canadian Plains and Valleys 70 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: San Miguel, Quay, Guadalupe, De Baca and Chaves

Characteristic Soils Are:	
Alama, Alma, Amarillo, Berthoud, Canez	Chispa, Clovis, Conchas, Hilken, Hodgins, Ima
Kinkead, La Lande, Lacita, Milner, Minneosa	Montoya, Playa, Poquita, Portales, Quay, Ratliff
Reagan, Redona, Reeves, San Jon, San Jose	Toyah, Tucumcari
Other Soils included are:	

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	07/26/78	Don Sylvester	07/26/78

Site Description Revision:

Author	Date	Approval	Date
Elizabeth Wright	11/05/02	George Chavez	2/11/03